UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/479,432	01/07/2000	Charles R. Musick	IL-10443	3027

7590 01/02/2004	EXAMINER

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ART UNIT	PAPER NUMBER
2172	

DATE MAILED: 01/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>05 December 2003</u>.

2a)☒ This action is **FINAL.**   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-8,18,20,21,24-31,41,43,44,48,52 and 53* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8,18,20,21,24-31,41,43,44,48,52 and 53* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application)
since a specific reference was included in the first sentence of the specification or in an Application Data Sheet.
37 CFR 1.78.

    a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific
reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .

4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: .

DETAILED ACTION

1.   This Office Action is response to Applicants' Amendment filed on 12-05-2003.

2.   Claims 9-17, 19, 22-23, 42, 47, and 49-51 have been cancelled.

3.   Claims 1-8, 18, 20-21, 24-31, 41, 43-44, 48 and 52-53 are pending in this

application.

Claim Rejections - 35 USC § 103

4.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of

the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

the various claims was commonly owned at the time any inventions covered therein

were made absent any evidence to the contrary. Applicant is advised of the obligation

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g)

prior art under 35 U.S.C. 103(a).

5.   Claims 1-6, 8, 18, 20-21, 24-29, 31, 41, 43-44, 48 and 52-53 are rejected under

35 U.S.C. 103(a) as being unpatentable over US Patent No. 6,411,961 issued to Chen

in view of US Patent No. 6,223,186 issued to Rigault et al. (hereinafter Rigault).

With respect to claim 1, Chen discloses identifying a data source of interest (data

warehouse and analyzing one or more data sources: col. 2, lines 15-20);

updating a metadata to reflect information available from said source (meta

model is written to conform to a meta model and refer to the data dictionary: col. 7, lines

6-15);

automatically generating a mediator based on said metadata (code generation:

col. 5, lines 11-24 and lines 62-67 and col. 6, lines 1-4; also see code generation

module: col. 14, lines 32-40).

writing a wrapper for said source which calls said mediator (schema designer

module code: such as a wrapper: col. 14, lines 26-41).

Chen discloses data warehouse and one or more data sources for analyzing

information by using a meta model based technique for modeling the enterprise data.

The enterprise is typically a business activity, but can also be loci of human activity (col.

2, lines 18-25). Chen does not explicitly indicate wherein said method is applied to data

warehousing applications in the domain of functional genomics and proteomics.

However, Rigault discloses a database, data source, containing sequence data

that can be used with other bimolecular information and these data may represent

genomics and proteomics (col. 17, lines 26-30).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teachings of Chen with the teachings of Rigault so as to obtain a data warehousing or a database that can store data of any type, it would been obvious to modify the database of Chen to store the claimed genomics and proteomics domains in the data warehouse, the loci of human activity" can be analysis of sequence data. This combination would provide tools to write the code or generation code for object in the wrapper (col. 8, lines 41-67 and col. 9, lines 1-12). Also, it would provide meta models, which is describing the relationships between of entities, data type and data schema and translation data from a variety of sources to particular data base schema in order to build a data warehouse (Chen – col. 2, lines 20-45) in the database within a data warehouse environment.

With respect to claim 2, Chen wherein the step of updating a metadata comprises entering new types of information, new data formats for previously defined information, new transformations between data formats, and the schema of said source (col. 2, lines 26-45).

With respect to claim 3, Chen discloses wherein said mediator is fully functional and is automatically generated by a stand-alone mediator generation program (code generation module: col. 14, lines 10-41 and see fig. 7B, item 624).

With respect to claim 4, Chen discloses wherein said mediator generation program automatically defines an API and translation libraries (programming interface: col. 12, lines 1-5; and see fig. 5A, col. 10, lines 17-20 and col. 12, lines 6-12).

With respect to claim 5, Chen discloses wherein said mediator comprises code to translate between source and target representations, possibly using externally defined methods, and load data into said warehouse (col. 5, lines 15-20).

With respect to claims 6 and 8, Chen discloses wherein said wrapper makes use of said mediator (schema designer module code: such as a wrapper: col. 14, lines 26-41).

With respect to claim 18, Chen discloses identifying a data source of interest (data warehouse and analyzing one or more data sources: col. 2, lines 15-20);

updating a metadata to reflect information available from said source (meta model is written to conform to a meta model and refer to the data dictionary: col. 7, lines 6-15);

automatically generating a mediator based on said metadata (code generation: col. 5, lines 11-24 and lines 62-67 and col. 6, lines 1-4; also see code generation module: col. 14, lines 32-40).

writing a wrapper for said source which calls said mediator (schema designer module code: such as a wrapper: col. 14, lines 26-41).

Chen discloses data warehouse and one or more data sources for analyzing information by using a meta model based technique for modeling the enterprise data. The enterprise is typically a business activity, but can also be loci of human activity (col. 2, lines 18-25). Chen does not explicitly indicate wherein said method is applied to data warehousing applications in the domain of protein sequence and structure analysis.

However, Rigault discloses a database, data source, containing sequence data that can be used with other bimolecular information and these data may represent genomics and proteomics (col. 17, lines 26-30). Also Rigault discloses infomatics applies to statistical technique and the structure of DAN (col. 1, lines 20-30).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teachings of Chen with the teachings of Rigault so as to obtain a data warehousing or a database that can store data of any type, it would been obvious to modify the database of Chen to store the claimed genomics and proteomics domains in the data warehouse, the loci of human activity" can be analysis of sequence data. This combination would provide tools to write the code or generation code for object in the wrapper (col. 8, lines 41-67 and col. 9, lines 1-12). Also, it would provide meta models, which is describing the relationships between of entities, data type and data schema and translation data from a variety of sources to particular data base schema in order to build a data warehouse (Chen – col. 2, lines 20-45) in the database within a data warehouse environment.

With respect to claim 20, Chen discloses wherein said method is used for integrating a new data source into a data warehouse (col. 2, lines 18-25 and lines 30-45; also col. 3, lines 28-35 and col. 4, lines 26-39).

With respect to claim 21, Chen discloses updating a warehouse when a previously integrated data source is modified (col. 7, lines 6-15).

Claim 24 is essentially the same as claim 1 except that it is directed to a computer-useable medium rather than a method , and is rejected for the same reason as applied to the claim 1 hereinabove.

Claim 25 is essentially the same as claim 2 except that it is directed to a computer-useable medium rather than a method, and is rejected for the same reason as applied to the claim 2 hereinabove.

Claim 26 is essentially the same as claim 3 except that it is directed to a computer-useable medium rather than a method, and is rejected for the same reason as applied to the claim 3 hereinabove.

Claim 27 is essentially the same as claim 4 except that it is directed to a computer-useable medium rather than a method, and is rejected for the same reason as applied to the claim 4 hereinabove.

Claim 28 is essentially the same as claim 5 except that it is directed to a computer-useable medium rather than a method, and is rejected for the same reason as applied to the claim 5 hereinabove.

Claim 29 is essentially the same as claim 6 except that it is directed to a computer-useable medium rather than a method, and is rejected for the same reason as applied to the claim 6 hereinabove.

Claim 31 is essentially the same as claim 8 except that it is directed to a computer-useable medium rather than a method, and is rejected for the same reason as applied to the claim 8 hereinabove.

Claim 41 is essentially the same as claim 18 except that it is directed to a

computer-useable medium rather than a method , and is rejected for the same reason

as applied to the claim 18 hereinabove.

Claim 43 is essentially the same as claim 20 except that it is directed to a

computer-useable medium rather than a method, and is rejected for the same reason as

applied to the claim 20 hereinabove.

Claim 44 is essentially the same as claim 21 except that it is directed to a

computer-useable medium rather than a method, and is rejected for the same reason as

applied to the claim 21 hereinabove.

With respect to claim 48, Chen discloses identifying a data source of interest

(data warehouse and analyzing one or more data sources: col. 2, lines 15-20);

updating a metadata to reflect information available from said source (meta

model is written to conform to a meta model and refer to the data dictionary: col. 7, lines

6-15);

automatically generating a mediator based on said metadata (code generation:

col. 5, lines 11-24 and lines 62-67 and col. 6, lines 1-4; also see code generation

module: col. 14, lines 32-40).

writing a wrapper for said source which calls said mediator (schema designer

module code: such as a wrapper: col. 14, lines 26-41).

Chen discloses data warehouse and one or more data sources for analyzing

information by using a meta model based technique for modeling the enterprise data.

The enterprise is typically a business activity, but can also be loci of human activity (col.

2, lines 18-25). Chen does not explicitly indicate wherein said method is applied to data warehousing applications in the domain of astrophysics and climate modeling.

However, R1gault discloses a database, data source, containing sequence data that can be used with other bimolecular information, quantitative analysis, molecular biology and these data may represent astrophysics and climate modeling (col. 17, lines 26-30 and col. 1, lines 20-30). Also Rigault discloses infomatics applies to statistical technique and the structure of DAN (col. 1, lines 20-30).

With respect to claim 52, Chen discloses wherein said method is used for integrating a new data source into a data warehouse (col. 2, lines 18-25 and lines 30-45; also col. 3, lines 28-35 and col. 4, lines 26-39).

With respect to claim 53, Chen discloses updating a warehouse when a previously integrated data source is modified (col. 7, lines 6-15).

6.   Claims 7, 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 6,411,961 issued to Chen in view of US Patent No. 6,223,186 issued to Rigault et al. (hereinafter Rigault) and further in view of US Patent No. 5,937,409 issued to Wetherbee.

With respect to claim 7, Chen in view of Rigault discloses a method as discussed in claim 1.

Chen discloses data warehouse and one or more data sources for analyzing information by using a meta model based technique for modeling the enterprise data.

The enterprise is typically a business activity, but can also be loci of human activity (col. 2, lines 18-25). Chen does not explicitly indicate wherein said method is applied to data warehousing applications in the domain of functional genomics and proteomics. But Rigault discloses a database storing sequence data or biomolecular information. (col. 17, lines 26-30). In combination, Chen and Rigault do not explicitly indicate wherein said mediator generation program defines a public data representation, wherein said wrapper uses said public data representation.

However, Wetherbee discloses public attribute data type and public attribute data type (col.7, lines 38-49).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teachings of Chen in view of Fontana with the teachings of Wetherbee so as to obtain a relational data store that corresponds to a class type of an object referenced, and it maps collection reference attributes of an object to a table in a relational data store that corresponds to a class type of collection referenced (Wetherbee – col. 3, lines 20-28); and writing code for the wrapper of the context object (col. 8, lines 41-67). This combination would provide tools to write the code or generation code for object in the wrapper (col. 8, lines 41-67 and col. 9, lines 1-12). Also, it would provide meta models, which is describing the relationships between of entities, data type and data schema and translation data from a variety of sources to particular data base schema in order to build a data warehouse (Chen – col. 2, lines 20-45) in the database within a data warehouse environment.

Claim 30 is essentially the same as claim 7 except that it is directed to a

computer-useable medium rather than a method, and is rejected for the same reason as

applied to the claim 7 hereinabove.

Conclusion

7.   Applicant's amendment necessitated the new ground(s) of rejection presented in

this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37

CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the date of this final action.

Contact Information

8.   Any inquiry concerning this communication should be directed to Anh Ly whose

telephone number is (703) 306-4527 or via E-Mail: **ANH.LY@USPTO.GOV**. The

examiner can be reached on Monday - Friday from 8:00 AM to 4:00 PM.

If attempts to reach the examiner are unsuccessful, see the examiner's

supervisor, John Breene, can be reached on (703) 305-9790.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to: (703) 872-9306 (Central Official Fax Number)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal

Drive, Arlington, VA, Fourth Floor (receptionist).

Inquiries of a general nature or relating to the status of this application should be

directed to the Group receptionist whose telephone number is (703) 305-3900.

AL /∿
DEC. 19th, 2003

JEAN M. CORRIELUS
PRIMARY EXAMINER